25X1

Secret

[redacted]

July 7, 1958

25X1

IN REPLY
REFER TO:

Received
7/11/58
1300

[redacted]

Attention:

Dear Sir:

Enclosed is a tentative proposal covering the crossbow discussion we had recently. As can be seen from the proposal, there might be good reason to consider the so-called longbow as a desirable solution to the problem. The new fiberglass bows can be disassembled and easily concealed.

The one-eighth inch diameter of 190 pound line would require the use of a very large reel. This would tend to favor the use of a lighter line as a leader to haul the heavier line.

If the lighter line is used, the tremendous power of the crossbow may not be necessary. If a regular longbow is used, there might be less danger of detection because of the increasing interest in bow fishing.

A short study, as proposed, might lead to the possibility of procuring commercially-available equipment at greatly reduced cost.

I will call you shortly to discuss this further with you. We can then quickly quote a price on the course of action decided at that time.

I realize that the scope of the project would be somewhat enlarged if a study, as suggested, is made. However, should the outcome be as is expected, it is felt that no additional expenses will have been incurred.

Very truly yours,

[redacted]

25X1

CONFIDENTIAL

JDH:gs
Encs. (orig. & 2 cc)
cc ltr. & encl. [redacted]

Secret

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July 7, 1958

Attention:

P.S. Is your customer aware of the bow-fishing equipment that is commercially available?

JDH/gs

Secret

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TENTATIVE PROPOSAL

CROSSBOWS

July 7, 1958

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TENTATIVE PROPOSAL

CROSSBOWS

There is an interest in a bowtype weapon which will be capable of throwing a 190 lb. test line 300 feet. A crossbow has been suggested, mainly because it is inherently smaller than a longbow. It would definitely do the job. It is recommended, however, that a regular longbow be studied first. At least two manufacturers make "take-down" longbows up to 85 lbs. pull. These bows can be taken apart and stored in a space about two and one-half feet long. They are readily assembled by pushing the limbs into the handle. There is available here at the Lab. a 40 lb. take-down with which to experiment. It would not be strong enough for the full distance, but would show if this construction has possibilities.

There is a medium sized manufacturer of archery equipment in [redacted] about three quarters of an hour drive 25X1 from the Lab. This company sells a large variety of equipment, including bow-fishing reels. If we furnish them with a 190 lb. test line, they will see what distance they can get with standard equipment. The longbow idea could therefore be tested at practically no cost. Incidentally, the president of this company believes that a 60 to 65 lb. laminated "full-working recurve" (shaped like Cupid's Bow) would be able to throw the line most if not all the way. (This sounds a little optimistic to us, but it does confirm our belief that a longbow should be tried.)

There is no substitute for the pistol-crossbow, of course,

which would have to be made in this form. This can be done without difficulty.

If the longbow doesn't work out, or isn't satisfactory, the larger crossbow would also be made. We have at hand, by coincidence, several parts for the steel-bow crossbow shown in the POPULAR MECHANICS article, including the stock, two bows, and several miscellaneous pieces of hardware. The bows, which are unfinished, were made from Crosley springs. They would be available for this project.

There is a small company in [redacted] about twenty minutes 25X1 from here, which makes fishing line. They stock line up to 615 lbs. test. The closest they have to 190 lbs. is a 187 lb. line. The next highest is 215 lbs. These are nylon lines and are, therefore, as small in diameter and light in weight as any made in these strengths. Eight hundred feet of the 187 lb. line costs $2.60.

The main reason for using a bow (or crossbow) here is to reduce the noise considerably below that of a gas fired missile. A plain bow - and even more a crossbow - is audible at quite a distance. There are several things which can be done to quiet them, however, and these steps should definitely be taken. First, the bow should be covered with a woolen sleeve or "sock". Secondly, rubber buttons, called "brush buttons" should be placed on the bow string near the nocks. Thirdly, the arrow rest should be covered with fur. If these precautions are taken with either the regular bow or the crossbow, audible noise will be reduced to a minimum without interferring with the action of the bow.

It was suggested that the arrows be of aluminum tubing with nose crimped and weighted with lead. This might be all right for the longbow,

but it is doubtful if a crude point such as this would be desirable on a crossbow. The crossbow is historically an inaccurate weapon, (it was made obsolete by the famous English longbow). Accuracy can be achieved only by taking considerable pains to make accurate "bolts" (arrows). Although it is not necessary to hit a bullseye in the present application, some degree of accuracy will be desirable. Furthermore, a wide variety of standard points are available, such as field, blunt, non-skid roving, etc., and a suitable point could be chosen from these. The shafts should be of aluminum. A satisfactory aluminum shaft material is Easton's 24 SRT-X alloy.

The standard bow-fishing reel is merely a spool which is fixed to the front of the bow. The spool does not turn. The line pays our parallel to the axis of the spool. This prevents loading the line, and seems to work very well, if care is taken when the line is wrapped on the spool. Spools up to about eight inches in diameter are available, but even these might not have the capacity necessary here. Most bow fishing is done at very short distances, of course, and 60 to 300 feet of line is unknown. The capacity of standard spools can be checked when the longbow is investigated.

It may be necessary to shoot a lighter line, and use this to pull a 190 lb. line. One hundred ninety pounds is well above the size of line normally shot in a bow - it's about an eighth of an inch in diameter. It shouldn't take long to find out whether or not this heavy a line will cause trouble. If the mass of the line is too great for the arrow, the arrow flies back, or drops dead.

One further avenue should be investigated early in this project.

It is possible to buy crossbows, ready-made. The writer has seen advertisements for them, and has seen the bows themselves. Unfortunately for the present purposes, however, crossbows are illegal in most, if not all, of the States and are, therefore, not easy to locate. (The only place I have seen them openly displayed for sale was in a hardware store [redacted] That weapon had been made in the U.S.A., however.) If a crossbow could be found, it might be necessary merely to add a regular longbow fishing spool.

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